

The Genus *Sintoria* Hull

(Diptera: Asilidae)

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The genus *Sintoria* Hull (1962) was proposed for *S. emeralda* Hull from Mexico. Material collected in recent years has extended the range of the genus to Baja California and north to Utah. Six species are described as new and a key to the species is given.

Sintoria is closely related to *Cyrtopogon* Loew. In both genera the mystax is composed of hairs, there is a comb of about five curved bristles at the apex of the tibiae, and they lack strong dorsocentral and scutellar bristles. In *Sintoria* the facial gibbosity arises abruptly below the antennae to a height subequal to the length of the first antennal segment from which it recedes gradually to the oral margin; in *Cyrtopogon* the gibbosity is usually evenly rounded with the greatest height at the middle. There are weak occipital bristles in *Sintoria* while in *Cyrtopogon* they are usually long dense hairs. In *Sintoria* the scutellum is more or less flattened and the disc largely bare of pollen and with short discal and long marginal hairs; in the groups of *Cyrtopogon* with flattened scutellum, the disc is pollinose and the hairs long erect on the disc and posterior margin. In *Sintoria* the head, thorax and coxae are largely pollinose; spots on the mesonotum, the abdomen largely and the legs are bare of pollen, and these areas are shining black with metallic reflections of blue, green or purple; no *Cyrtopogon* have been noted with these metallic colors.

Sintoria is mainly a fall genus, occurring from August to November. *Cyrtopogon* occurs mainly in the spring and summer and until recently had not been collected in Mexico. Its range in North America in the west, is from New Mexico to Baja California Norte and north to Alaska; in the east it occurs from Florida to Nova Scotia and occurs in all the Canadian Provinces; it is not found in Texas and is absent or rare in the Great Plain States.

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of California, Riverside, UCR; W. W. Wirth, Entomology Research Division, Agr. Res. Serv., U. S. D. A., USNM, W. J. Hanson, Utah State University, USU.

Measurements were made with an ocular micrometer: of the face and wings at 40 times, and of the antennae at 75 times.

KEY TO SPECIES

1. Mesonotum behind suture largely bare of pollen; wings lightly infuscated ... 2
 Mesonotum behind suture largely pollinose, small intermediate spot and postalar calli bare; wings hyaline 3
2. Hairs of face light yellow; hairs of mesonotum yellowish; abdomen bluish green, posterior corners of male tergites 1-5 and female 1-6, yellowish pollinose; length 8-9 mm. (Mexico) *emeralda* Hull
 Mystax largely black; anterior mesonotal hairs on central stripe largely black; abdomen blue black, small posterior corners of tergites 2-5, gray pollinose; length 7-9 mm. (Baja California Sur) *lagunae* Wilcox, n. sp.
3. Central mesonotal crest of hairs largely black and nearly as long as antennal segments 1-3; mystax largely black and hairs of frons and ocellar tubercle, black; length 9 mm. (Mexico) *rossi* Wilcox, n. sp.
 Central mesonotal hairs white or yellowish and subequal in length to antennal segments 1-2; mystax, hairs of frons and ocellar tubercle, white or yellowish 4
4. Pollen on sides of abdominal tergites 2-6 extending inward on anterior margins 5
 Pollen on sides of abdominal tergites if extending inward, on posterior margins 6
5. Anterior pollinose fascia on male abdominal tergites 2-6 broadly separated, entire on female 2-5; central stripe of mesonotum bare of pollen anterior to suture and in male confluent with intermediate spots, posterior intermediate spots narrowly separated from postalar calli; length 8 mm. (Arizona, Utah) *cazieri* Wilcox, n. sp.
 Anterior pollinose fascia on male abdominal tergites 3-5 entire; central stripe of mesonotum pollinose, intermediate spots small and widely separated from each other and from postalar calli; length 7 mm. (Texas)
 *pappi* Wilcox, n. sp.
6. Scutellum all pollinose; broad sides of abdominal tergites 1-6 gray pollinose, broadly extending inward for short distance on posterior corners of 2-6; length 10 mm. (California) *mojavae* Wilcox, n. sp.
 Disc of scutellum largely bare of pollen, narrow posterior margin and basal central spot on disc, gray pollinose; sides of abdominal tergite 1 and posterior corners of 2-6, gray pollinose, the pollen extending narrowly forward to anterior margins on most specimens; length 7-8 mm. (Arizona)
 *cyanea* Wilcox, n. sp.

Sintoria cazieri Wilcox, new species

MALE.—Length 8 mm. Head black, densely white pollinose. Hairs and bristles white; 8 erect bristles on ocellar tubercle. Face at antennae 21/30 width of one

eye. Antennae black; hairs white; two yellowish bristles below on segment 2; segment 3 of nearly uniform width, narrowed on apical fourth; segments 10:11:33:16 in length.

Mesonotum black, gray pollinose, central stripe anteriorly brown, area between humeri and central stripe golden. Anterior intermediate bare spots broadly connected across dorsum and narrowed laterally; posterior spots connected narrowly with bare postalar calli. Hairs white, short sparse, not much longer than antennal segment 1, longer in posterior dorsocentral rows and long erect on humeri. Two presutural bristles yellowish, supraalars and postalars white, hair-like. Pleura and coxae densely gray pollinose, hairs white. Disc of scutellum bare, posterior margin and narrow base gray pollinose, 6 long white marginal hairs.

Abdomen black with greenish reflections; sides of tergites 1-7 densely gray pollinose, pollen extends inwards narrowly on anterior margins of 1 and 3-5, interrupted at middle by about half width of segments. Hairs short sparse white, longer laterally; lateral bristles on tergite 1 white. Sternites 1-7 densely gray pollinose, hairs white. Genitalia black, hairs white.

Legs black, reflections blue, on hind femora greenish. Hairs white; bristles yellowish white; pulvilli and empodia whitish; claws black, base narrowly reddish.

Halteres yellowish brown, lower stem brown. Wings hyaline, veins brown, anterior crossvein at 42/66 length of discal cell, third vein branched beyond end of discal cell, anal cell open, posterior cell 4 narrowed at wing margin.

FEMALE.—Length 8 mm. Bristles on ocellar tubercle and hairs below on antennae, yellowish. Anterior intermediate bare spots not connected dorsally, and posterior spots separated from bare postalar calli. Anterior pollinose bands on abdominal tergites 2-5 entire, narrowly separated on 6; segments 7-8 bare; apical spines brown. Anterior crossvein at 40/67 length of discal cell, minute stump vein on one side, posterior cell 4 not narrowed at margin.

Holotype male, HOLDEN, UTAH, 18 September 1959, CIS. Allotype female, Beryl, Iron County, Utah, 27 September 1953 (M. Cazier) AMNH.

PARATYPES.—1 female, Five Points, Utah, 5 September 1931 (G. F. Knowlton, M. J. Jones) beets; antennal segment 3 missing, JW; 2 females, House Rock, Arizona, 14 September 1946 (F. H. Parker) A. L. Melander Collection, USNM.

Named in honor of Mont A. Cazier, Arizona State University, Tempe, a most persistent and productive collector who has supplied me with innumerable Asilidae in the last ten years.

***Sintoria cyanea* Wilcox, new species**

MALE.—Length 8 mm. Head black, densely grayish white pollinose, frons with slight golden tinge. Hairs white, in mystax longer on oral margin; 4-5 yellowish lateral hairs on frons; about 6 erect yellowish bristles on ocellar tubercle; occipitals white. Face at antennae 21/33 width of one eye. Antennae black, segment 1 grayish and remainder brownish pollinose; sparse hairs below on segments 1-2 white, above brownish; two brownish bristles below on segment 1 and one on

segment 2; segment 3 slightly coarctate, tapering on apical fourth; segments 14:13:39:17 in length.

Mesonotum black, densely grayish brown pollinose; central stripe subshining; small intermediate spots before and behind suture and postalar calli, shining black. Hairs erect yellowish, as long as antennal segments 1-2. Bristles yellowish, 2 presutural, 2 supraalar, 3 postalar. Pleura and coxae grayish pollinose, hairs white. Scutellum shining black, narrow posterior margin and basal semicircular spot, grayish brown pollinose; hairs yellowish white, on disc as long as mesonotal hairs, posterior margin with fringe of about 20 longer erect hairs.

Abdomen shining blue-black, sides of tergites 1-6 gray pollinose widening slightly on the posterior corners of 2-5. Hairs white, long laterally, short sparse dorsally. Sternites 1-7 gray pollinose with long white hairs. Genitalia black, long hairs white.

Legs blue black; hairs white; bristles white becoming yellowish brown on tarsi; claws black; pulvilli and empodia light brown.

Halteres yellowish, base brown. Wings hyaline, veins brown, anterior crossvein at 36/70 length of discal cell, third vein branched opposite end of discal cell.

FEMALE.—Length 7 mm. Apical spines of abdomen black. Third vein branched beyond end of discal cell.

Holotype male, SABINO CANYON, SANTA CATALINA MTS., ARIZONA, 25 October 1962 (J. Wilcox) CAS. Allotype female, same locality, 20 October 1962, CAS.

PARATYPES.—Arizona: 9 males, 19 females, same locality, 19 to 25 October 1962, 22 October 1965 (Itol J. and J. Wilcox) JW; 3 males, 3 females, same data, 11 October 1964 (Eric Fisher) EF; 1 female, 1.5 mi. N. E. Carrizo, Navajo Co., 28 September 1962 (P. H. Timberlake) UCR; 1 female, Huachuca Mts., 13 October 1931 (E. D. Ball) USNM; 2 males, 2 females, 3 mi. E. Pantano, 20 October 1962, 22 October 1965 (J. Wilcox) JW; 1 male, 1 female, 7 mi. W. Peach Springs, Mohave Co., 28 September 1964 (P. H. Timberlake) UCR; 14 males, 21 females, 2 mi. N. E. Portal, 10 October 1964 (Eric Fisher, R. R. Snelling) late afternoon and evening, some by sweeping Tar Bush, and 3 at light, EF; 1 male, 2 mi. N. E. Portal, 22 October 1960 (M. A. Cazier) ASU; 1 male, 3 females, 2 mi. N. E. Portal, 23 October 1962 (J. Wilcox) JW; 1 male, 2 females, Tucson, September 1939 (R. H. Crandall) AMNH; 1 male, Tucson, 31 September 1958 (R. S. Beal) ASU; 1 male, Tucson, 9 July 1920, JW.

The specimens collected at the mouth of Sabino Canyon, elevation about 3,000 feet, were mostly on the dead stems down in or among the seed clusters and flowers of Burro Brush. Near Portal, they were found on the stems and leaves of Tar Bush. On hot days, they were not found until 3:30 or 3:45 p.m., but on a cloudy day they appeared at 11:30 a.m., but soon disappeared when it became cooler. Another time a few were collected resting on the green foliage of mesquite about four feet high at 11:00 a.m. on a warm day. *Metapogon punctipennis* Coquillett was collected at the same time in both localities.

The specimens from near Portal have only the posterior corners of

abdominal tergites 2–5 pollinose and some of the specimens from Sabino Canyon do not have the pollen on tergites 2–3 extending forward to the anterior margins on the sides of the tergites.

SINTORIA EMERALDA Hull

Sintoria emeralda Hull, 1962, U. S. Nat. Mus. Bull. 224: 199.

Type ♂, Nepantla, Mexico, 28 October 1923 (E. G. Smith) USNM; Allotype ♀, La Cascada, Mexico, 28 October 1922 (E. G. Smith) USNM.

MALE.—Length 7 mm. Face and frons golden, occiput gray pollinose; hairs all yellowish; face at antennae 19/28 width of one eye. Antennae black, hairs brown; segments 14:15:41:10 in length.

Mesonotum golden pollinose; central stripe, broad anterior and posterior intermediate spots and postalar calli, shining purple, anterior spots extend narrowly to humeri. Hairs white to yellowish and subequal in length to antennae 1–2. Scutellum shining bluish purple, very narrow posterior margin golden pollinose; discal and about 12 longer marginal hairs yellowish.

Abdomen bluish green; narrow posterior corners of tergite 1 and posterior corners of 2–5, golden pollinose. Genitalia blue black, hairs yellowish.

Legs bluish green, hairs and bristles yellowish.

Halteres lemon yellow, base and lower stem brown. Wings light brown; veins brown, at base anteriorly yellowish; anterior crossvein at 35/59 length of discal cell; third vein branched before end of discal cell, in one wing with minute stump vein.

FEMALE.—Length 7 mm. Posterior corners of tergites 1–6 yellowish pollinose. Anterior crossvein at 39/70 length of discal cell, third vein branched opposite end of discal cell.

ADDITIONAL SPECIMENS.—Mexico, Aguascalientes, 19 mi. S. Aguascalientes, Hy. 45, Km. 508, 19 August 1962 (Dorothy and C. H. Martin); Zacatecas, 10 mi. S. Jalapa, 17 September 1970 (G. E. and R. M. Bohart), Rio Grande, 4 September 1966 (G. E. and A. S. Bohart), 5 mi. N. Zacatecas, 19 September 1970 (G. E. and R. M. Bohart).

The following records were kindly supplied by Eric Fisher. Mexico: Guanajuato, 41 mi. N. Queretaro, 6,950 ft., 3 September 1963, (Scullen and Bolinger); Jalisco, 10 mi. S. W. Lagos de Moreno, 8 September 1970 (E. M. and J. L. Fisher); San Luis Potosi, 19 mi. S. San Luis Potosi, 7,200 ft., 4 September 1963 (Scullen and Bolinger).

Sintoria lagunae Wilcox, new species

MALE.—Length 8 mm. Head black, grayish white pollinose. Hairs of mystax black, the lower fourth white; hairs on frons black; about 12 long slender black bristles on ocellar tubercle; occipitals, beard and hairs on palpi and proboscis white. Face at antennae 21/38 width of one eye. Antennae black, brownish pollinose; hairs black, two bristle-like below on 2; segments 15:15:45:16 in length.

Mesonotum black; yellowish pollinose; central stripe subshining; intermediate spots with blue reflections, anterior ones twice as broad as long, posterior ones longer than broad and include postalar calli. Hairs on the anterior central stripe

erect black and as long as antennae 1–2 with few yellowish anteriorly and mostly yellowish posteriorly; lateral hairs yellowish. Bristles yellowish, 2 presutural, others not separable from the hairs. Pleura and coxae yellowish pollinose; hairs on coxae white, on hypopleura yellowish. Scutellum black, narrow posterior margin yellowish pollinose; hairs yellowish, discal hairs sparse semierect, about 20 long erect marginals.

Abdomen blue-black; posterior corners of tergites 2–5 gray pollinose. Hairs yellowish, long on sides and short on dorsum. Sternites yellowish pollinose; hairs long erect yellowish. Genitalia black; hairs yellowish.

Legs black with blue reflections; hairs yellowish white; bristles yellowish; claws black; pulvilli and empodia light brown.

Halteres yellowish red, lower stem brown. Wings very light brown, veins brown, anterior crossvein at $37/62$ length of discal cell, third vein branched slightly beyond end of discal cell.

FEMALE.—Length 8 mm. Face and frons with golden tinge; mystax black, hairs on sides below yellowish. Abdominal hairs white, short on sides of tergites 6–8; sternites 7–8 bare with short hairs; apical spines black. Anterior crossvein at $41/66$ length of discal cell, third vein angulated and with suggestion of a stump vein.

Holotype male, MEXICO, BAJA CALIFORNIA SUR, SA. VICTORIA, LA LAGUNA, 5,500 ft., 20/23 October 1968 (E. L. Sleeper, F. J. Moore) CSCLB. Allotype female, same data, CSCLB. Types to be deposited in Los Angeles County Museum.

PARATYPES.—92 males, 79 females, same data, CSCLB; 7 males, 2 females, La Laguna, Sierra Laguna, L. Calif., 14 October 1941 (Ross and Bohart) CAS.

The mystax of both sexes varies from all black to the lower half white in the males and some of the oral hairs as well as the lateral hairs yellowish in the females. Some of the specimens show a distinct brown tinge in the wings while others are nearly hyaline.

***Sintoria mojaviae* Wilcox, new species**

FEMALE.—Length 10 mm. Head black, densely white pollinose. Hairs and bristles white; 6 bristles on ocellar tubercle. Face at antennae $24/40$ width of one eye. Antennae black, brownish pollinose; hairs white; two yellowish white bristles below on segment 2; segment 3 tapers from base to apex; segments 18:18:45:20 in length.

Mesonotum black, gray pollinose; central stripe indistinctly brown; small intermediate spots and postalar calli, shining black. Hairs white; bristles white, 2 presutural and 2 fine supraalar and postalar. Pleura and coxae gray pollinose, hairs white. Scutellum gray pollinose, hairs white, about 12 long crinkly marginal hairs.

Abdomen purple-black; broad sides of tergites 1–6 expanded inward on posterior margins of 2–6, gray pollinose, fascia separated by about half width of abdomen on 2, widening gradually to 6; 7–8 bare; apical spines black. Hairs white, long on

sides of basal segments becoming short apically; lateral bristles on 1 white. Sternites 1-7 gray pollinose, hairs long erect white on 1-5, dense on 1.

Femora greenish black, tibiae and tarsi blue black; hairs white; bristles yellowish white; claws black; pulvilli and empodia light brown.

Halteres light brown, lower stem brown. Wings hyaline, veins brown, anterior crossvein at 48/84 length of discal cell, third vein branched opposite end of discal cell.

Holotype female, GRAPEVINE SPRINGS (CUSHENBURY SPRINGS), SAN BERNARDINO COUNTY, CALIFORNIA, 18 September 1948 (J. Wilcox) CAS.

Sintoria pappi Wilcox, new species

MALE.—Length 7 mm. Head black, densely white pollinose, frons with slight golden tinge. Hairs and bristles white, on frons and 6 bristles on ocellar tubercle yellowish. Face at antennae 19/29 width of one eye. Antennae black, gray pollinose; hairs and one bristle on segment 2 yellowish white; segments 13:13:36:14 in length.

Mesonotum black, densely gray pollinose; divided central stripe and broad area behind humeri brown; small intermediate spots and postalar calli shining black. Hairs white, anteriorly in central stripe as long as antennae 1, longer posteriorly. Bristles yellowish, 2-3 presutural, 1 supraalar, 2-3 postalar and 3-4 anterior dorsocentral. Pleura and coxae grayish golden pollinose, hairs white. Scutellum black; narrow posterior margin and base of disc extending narrowly to posterior margin at middle, gray pollinose; hairs white, about 8 longer bristle-like marginals.

Abdomen blue-black; sides of tergite 1, broad sides of 2-7 and anterior margins of 2-6, gray pollinose, anterior fascia narrow at middle and interrupted on 2 and 6-7. Hairs long white laterally becoming shorter apically; 4-5 white lateral bristles on 1. Sternites gray pollinose, hairs white. Short genitalia blue black, hairs white.

Legs green black, hairs and bristles white; claws black; pulvilli and empodia light brown.

Halteres yellowish, base brown. Wings hyaline, veins brown except basally; anterior crossvein at 40/66 length of discal cell; third vein branched slightly beyond end of discal cell; anal cell broadly open.

FEMALE.—Length 6 mm. Face 16/24 width of one eye; antennal segments 11:11:25:15 in length. Central bisecting pollen on scutellum broad. Abdomen with blue-purple reflections; broad sides of tergites 1-6 gray pollinose, extending inward anteriorly on 2-6, narrowly entire on 3-5; sternites 1-6 gray pollinose; apical spines black. Halteres yellow, lower stem brown. Anterior crossvein at 28/46 length of discal cell.

Holotype male, 8.6 MI. S. W. OF NEW MEXICO STATE LINE, HWY. 180, CULBERSON COUNTY, TEXAS, 2 October 1962 (Chas. S. Papp) UCR. Allotype female, 2 mi. N. W. Mesa, Chaves County, New Mexico, 10 September 1961 (P. D. Hurd) *Gutierrezia lucida*, CIS.

The facial gibbosity of this species is very weak.

Named in honor of Charles S. Papp, scientific illustrator, University of California, Riverside and noted Coleopterist.

Sintoria rossi Wilcox, new species

FEMALE.—Length 10 mm. Head black (greased), pollen on face and frons yellowish, on occiput gray. Mystax long dense black with some yellowish white hairs intermixed on oral margin; hairs on frons and about 10 bristle-like on ocellar tubercle, black; occipitals yellowish white; beard and hairs on palpi and proboscis white. Face at antennae 23/34 width of one eye. Antennae black (greased); hairs black, three or four long ones below on segment 1 and two or three on 2; segment 3 narrowed on apical fourth; segments 15:17:45:18 in length.

Mesonotum black (largely greased), golden brown pollinose; bare intermediate spots before and behind suture confluent and postalar calli in part bare. Central line with dense crest of black hairs as long as antennal segments 1–3; long sparse hairs otherwise yellowish. Two yellowish presutural bristles, supraalars and postalars hair-like. Pleura and coxae yellowish gray pollinose, hairs yellowish white. Scutellum black with some gray pollen laterally; dense short discal hairs and about 20 long crinkly hairs on posterior margin, white.

Abdomen black with green-blue reflections; narrow sides of tergites 2–5 expanded a little on posterior corners, grayish pollinose; 1 and 6–8 bare; apical spines black. Hairs long yellowish white becoming shorter apically, bristles on 1 hair-like. Sternites 1–6 grayish pollinose, long sparse hairs yellowish white.

Legs black with blue reflections; hairs white; bristles yellowish; claws black; pulvilli and empodia light brown.

Halteres light brown, lower stem brown. Wings hyaline, veins brown; anterior crossvein at 46/79 length of discal cell; third vein branched a little beyond end of discal cell; anal cell broadly open.

Holotype female, N. SLOPE, 11,000 FT., MT. POPOCATEPETL, MEXICO, 20 November 1946 (E. S. Ross) CAS.

Named in honor of Edward S. Ross, California Academy of Sciences, who frequently collects rare specimens of insects other than his speciality on his many trips to numerous parts of the world.

LITERATURE CITED

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